SPACECRAFT STATUS

(Since January 1999 GPMC)

- **Successfully Completed Pre-ship Spacecraft Comprehensive Performance Testing In March 1999**
  - **Subsequent To A Number of Rework Items**
    - **Plasma Arcing Fix to Solar Array Successfully Implemented**
    - **PN Encoding to The High Rate Science Data Successfully Implemented**
    - **Diode Fix to the Attitude Control Electronics Successfully Implemented**
    - **Resistor Fix to Eliminate MODIS Electronic Crosstalk Successfully Implemented**
    - **S-Band Transponder Firmware Fixes Successfully Implemented**
    - **CERES Voltage Regulators Successfully Replaced'**
    - **New Capacitors Added To HGA To Correct Polarity**
    - **New 1553 Harness To Increase Margin**
- **Conducted Pre-Ship Review With Oversight By A Number Of Review Teams:**
    - **Code 300 Pre-Ship Review Team**
    - **Senior Review Group (SRG)**
    - **External Independent Readiness Review (EIRR)**
    - **Lockheed Mission Success Reviews**
- **Successfully Transported Spacecraft From Valley Forge To VAFB Via C5**
- **Successfully Completed Post-Ship Spacecraft Comprehensive Perf. Testing**
- **ESDIS Project Successfully Completed The Flight Operations System (FOS) To The EOS Mission Operations System (EMOS) Conversion**
  - **ESDIS Project Conducted Delta-Flight Operations Review (Delta-FOR) In August**

SPACECRAFT STATUS (cont.)

(Since January 1999 GPMC)

- **Conducted 4 Formal End-To-End Tests Between The Spacecraft And The EOC, 1 At Valley Forge, 3 At VAFB**
  - **Allowed Incremental Testing With New EOC Builds And Configurations**
  - **Invaluable Training Exercises For Management, Flight And Ground Operations Support Teams**
  - **Validation Of On-Orbit Operational Procedures**
  - **Refinement Of Operational Concepts/Requirements**
  - **Over 200 Hours Of Test Time**
- **Conducted Numerous Rehearsals And Simulations**
  - **Joint Spacecraft/ EOC Launch Countdown Rehearsals**
  - **Critical Events Simulations**
  - **Instrument Activation Simulations**
- **Fueled Spacecraft On October 22nd.**
- **Mated Spacecraft To Launch Vehicle Adapter On November 6th**
- **Transferred Spacecraft To Vertical Transportation Fixture On Nov 10th**

LAUNCH VEHICLE STATUS

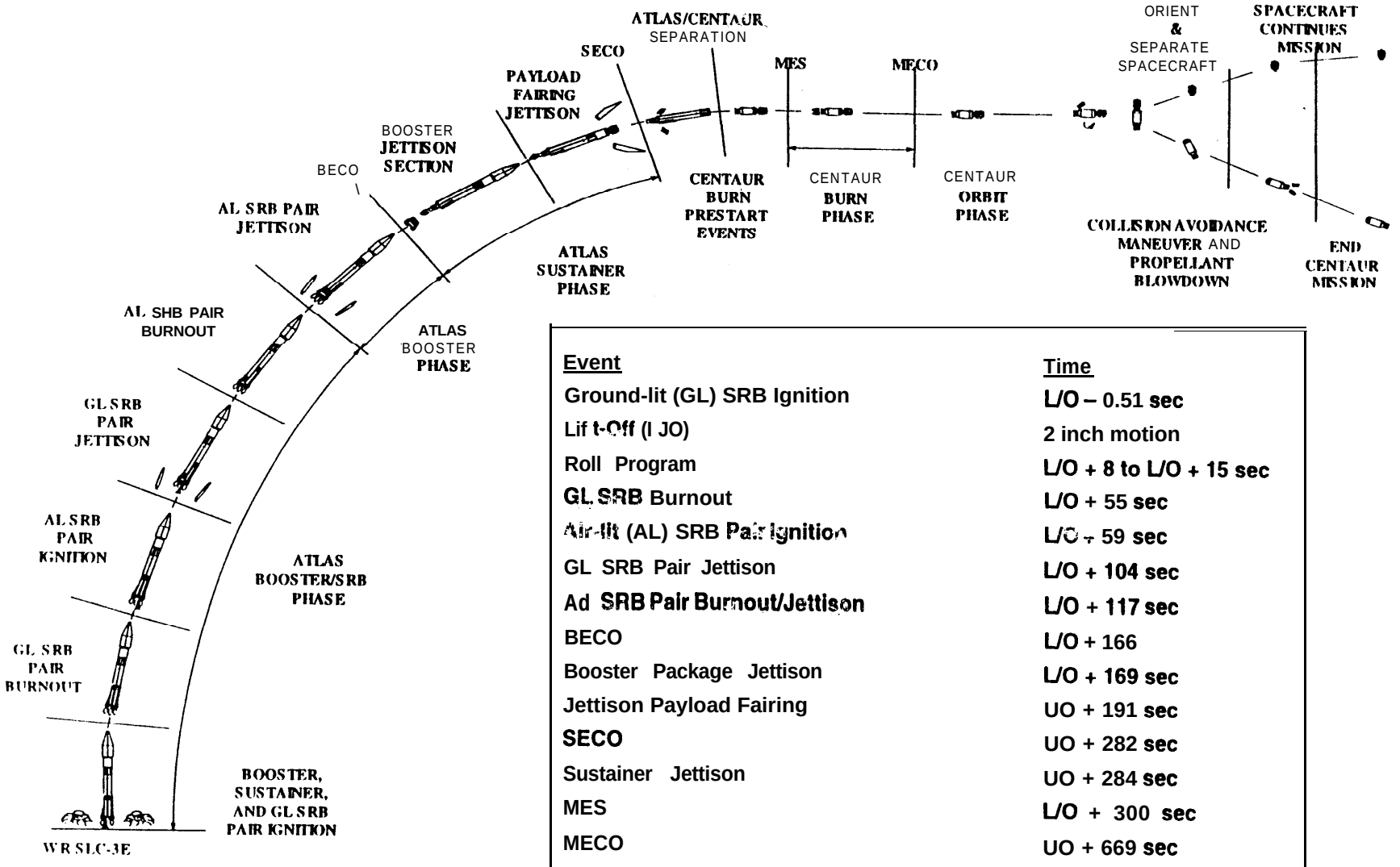
- AC-141 On-Stand For Over Two Years
  - Numerous review teams have concluded that the protection is as good as if it had been stored at the factory
- Conducted Successful Wet Dress Rehearsal in August 1999
  - Sixth WDR conducted at WTR on AC-141
- AC-141 Flight Readiness Has Been on Hold Pending the Resolution of the May 4th Delta III RL-10 Engine Failure Investigation
  - All Failure Investigation Teams Converged On A Single Root Cause
  - An RL-10 Engine Combustion Chamber Brazed Joint Failed, Causing Loss Of The Delta III Mission. Same Brazed Joint Exhibited Leaks During Ground Hot-Fire Tests.
  - Finite Element Analyses Performed To Determine Stress Margins In Combustion Chamber Joints
  - Conducted A Series Of Ultrasonic Inspections Of The AC-141 RL-10 Engine Brazed Joints
    - For AC-141, The Critical Voids Were In The High Pressure Region Of Chamber
    - LMA Confirmed That At Least 10 Engines Have Flown With Larger Voids

LAUNCH VEHICLE STATUS (cont.)

- On October 25th, KSC LVRR Board Cleared AC-141 To Fly Pending The Completion Of A Number Of Actions
  - Delta-LVRR Scheduled For November 18th To Close All Actions
- Launch Date Manifest Dependencies
  - December 16/17th Is Presently Reserved On The Range For Terra
  - UHF ATLAS Launch At ETR Scheduled-For November 21st
  - STS Launch Is Presently Scheduled For December 6th
    - Ten Day Hubble Servicing Mission
  - DMSP Launch Tentatively Re-planned For December 13/14
  - KOMPSAT Launch Tentatively Re-planned For December 19/20
  - Minuteman Launch Tentatively Scheduled For December 10
  - Tomahawk Launch Tentatively Scheduled For December 14
- KSC Position Is That Terra Launch Will Be NET December 16th
- Conclusion: At The Present Time, December 16th & 17th Are The Only Launch Dates Available This Year

11/12/99

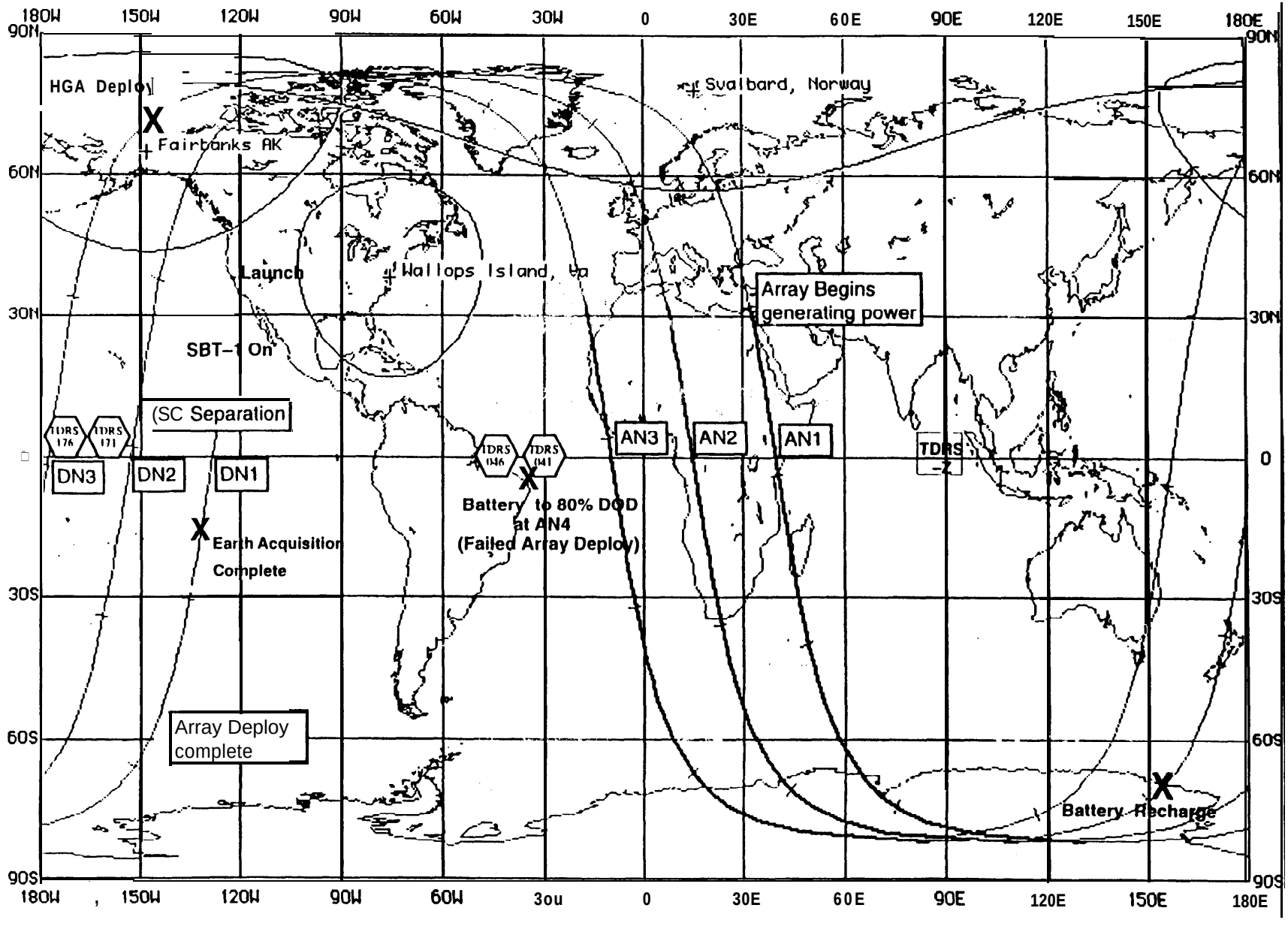
EOS Terra Boost Profile



Event	Time
Ground-lit (GL) SRB Ignition	L/O – 0.51 sec
Lift-Off (LJO)	2 inch motion
Roll Program	L/O + 8 to L/O + 15 sec
GL SRB Burnout	L/O + 55 sec
Air-lit (AL) SRB Pair Ignition	L/O + 59 sec
GL SRB Pair Jettison	L/O + 104 sec
Ad SRB Pair Burnout/Jettison	L/O + 117 sec
BECO	L/O + 166
Booster Package Jettison	L/O + 169 sec
Jettison Payload Fairing	UO + 191 sec
SECO	UO + 282 sec
Sustainer Jettison	UO + 284 sec
MES	L/O + 300 sec
MECO	UO + 669 sec
Spacecraft Separation	UO + 819 sec

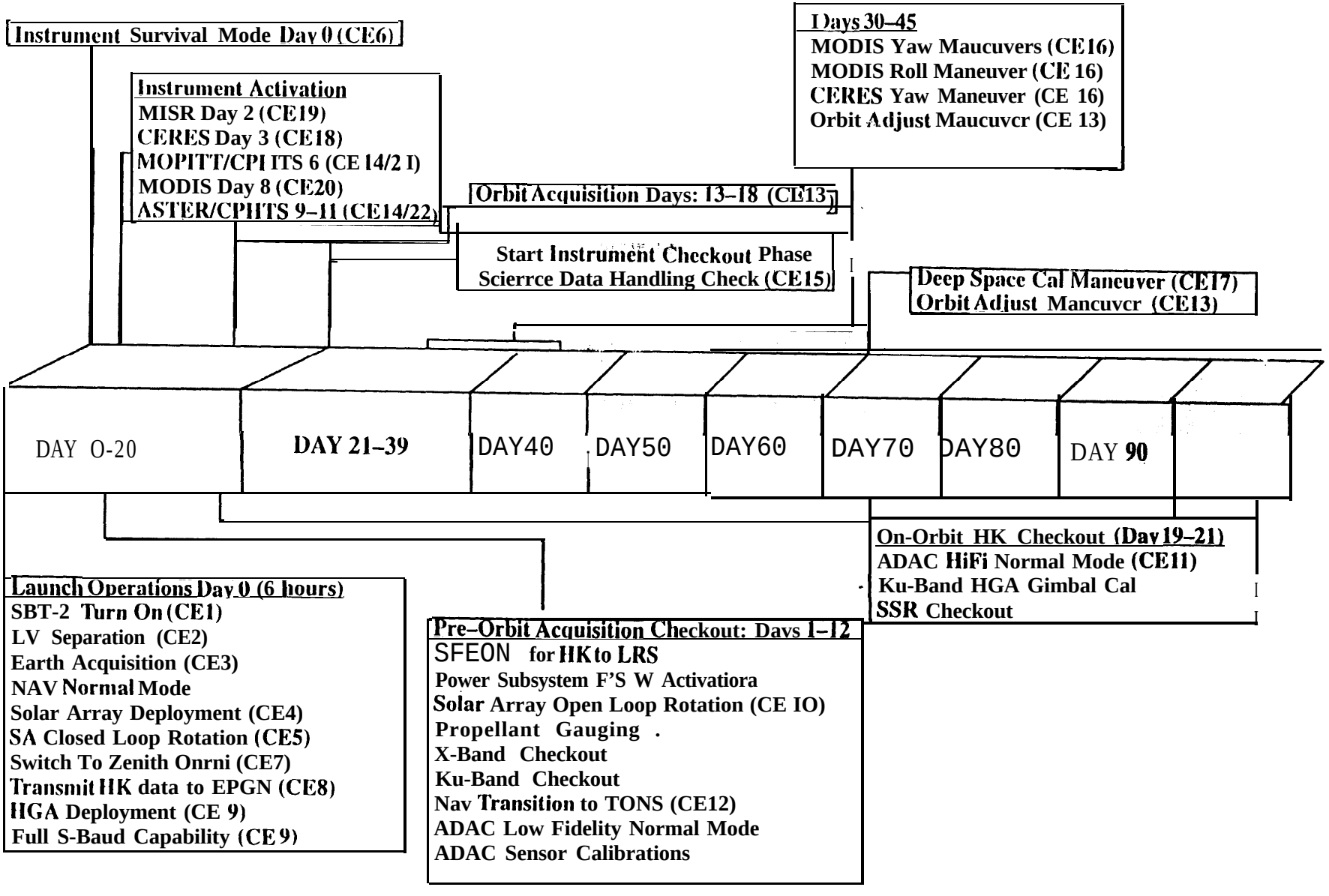
EOS AM-1 EARLY ORBITS' GROUND TRACK

LOCKHEED MARTIN



EOS AM-I Mission Timeline Overview

LOCKHEED MARTIN



FLIGHT SEGMENT SUMMARY

- CONDUCTED SUCCESSFUL PRE-SHIP REVIEW IN APRIL OF THIS YEAR
  - COMPLETED RIGOROUS SPACECRAFT-LEVEL ENVIRONMENTAL TEST PROGRAM
  - ALL RFA's FROM CODE 300 REVIEWS ARE CLOSED
- SUCCESSFULLY INCORORATED A NUMBER OF RISK MITIGATION CHANGES TO THE SPACECRAFT AND INSTRUMENTS DURING THE DELAY FOR DEVELOPMENT OF THE NEW GROUND SYSTEM
- ESTABLISHED THE OPERABILITY OF THE SPACECRAFT VIA AN AGGRESSIVE SCHEDULE OF END-TO-END TESTS WITH EOC
  - FLIGHT OPS TEAM AND TERRA CONTROL CENTER READINESS WAS ESTABLISHED DURING A SERIES OF ETE TESTS WITH THE SPACECRAFT AND REHEARSALS USING THE SPACECRAFT SIMULATOR
  - OPERATIONS PRODUCTS DEVELOPED UNDER THE DIRECTION OF THE LMMS VALLEY FORGE ENGINEERS AND UNDER CM CONTROL
- CONDUCTED SUCCESSFUL LAUNCH CAMPAIGN AT THE WESTERN TEST RANGE, INCLUDING FUELING, LAUNCH VEHICLE ADAPTER MATE AND ENCAPSULATION CLEARANCE CHECKS
  - ALL PR's AND ADR's GENERATED AT THE LAUNCH SITE HAVE BEEN CLOSED
  - SPACECRAFT LSE SET-UP ON PAD AND AWAITING SPACECRAFT ARRIVAL

TERRA SPACECRAFT AND INSTRUMENTS

ARE READY FOR LAUNCH